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New Arctiinae species from Azad Kashmir, Pakistan

(Lepidoptera, Arctiidae)

by

V. V. Dubatolov & V. O. Gurko

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Summary: Two new species of Arctiinae are described from the Azad Kashmir Province, Pakistan: *Oroncus gurkoi* Dubatolov spec. nov. similar to *O. ladakensis* O. Bang-Haas, 1927 from Ladakh and Zanskar, and *Spilarctia inayatullahi* Dubatolov & Gurko spec. nov. similar to the Central Asian *Spilarctia melanostigma* (Erschoff, 1872). The first one differs from *O. ladakensis* by less melanistic wing pattern with transverse bands of forewing, and by male genitalia structure: curved (not straight) apical processes of valva, peniculi rounded (not tapering) on apex, and by long distal lobe of vesica. For a group of *Oroncus*-species with *Arctia*-like pattern and *Oroncus*-like genitalia, a new subgenus *Arctoroncus* Gurko & Dubatolov subgen. nov., is established. The second new species, *Spilarctia inayatullahi* Dubatolov & Gurko spec. nov., is characterized by yellowish hind wings, and by longer apical processes of valva as compared to *S. melanostrigma*.

During an expedition in summer 2003 by V. O. Gurko to northern Pakistan (vicinity of Junkar, northern areas of Azad Jammu & Kashmir), among several interesting tiger moths collected, namely *Eucallimorpha principalis* (Kollar, [1844]), *Carcinopyga lichenigera nuytenae* De Freina, 1982, *Arctia caja orientalis* Moore, 1878, *Gonerda perornata* Moore, 1879, there appeared two new species, descriptions of which are given below.

Arctoroncus Gurko & Dubatolov **subgen. nov.**

Type species: *Oroncus (Arctoroncus) gurkoi* Dubatolov spec. nov.

Diagnosis

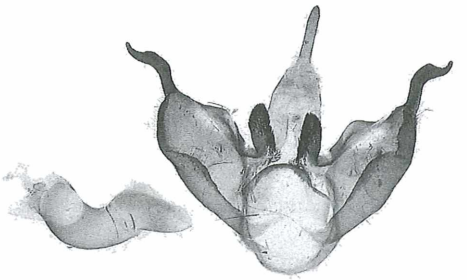
Antennae simple. Eyes small, oval, strongly convex, naked. Forewing pattern with dark transversal bands, often fused to wide dark pattern, no white stripe on costa as in the nominative *Oroncus*-species. Male genitalia as in other *Oroncus*-species: apical processes of valva very long, curved, tapering to apex; uncus not broadened to base. In *Arctia*-species apical processes of valva is not very long, broadened to apex; uncus is broadened to base.

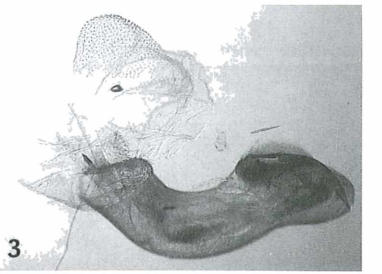
*Oroncus (Arctoroncus) **gurkoi*** Dubatolov **spec. nov.**

(colour plate IVb, figs. 1, 2)

Material

Holotype ♂: Pakistan, prov. Azad Jammu & Kashmir, NW from Junkar [ca. 100 km NW from





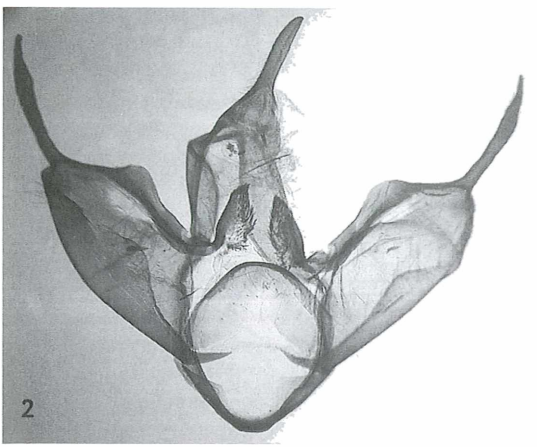


Fig. 1: Male genitalia of *Oroncus (Arctoroncus) gurkoi* spec. nov., holotype ♂, Pakistan, prov. Azad Jammu & Kashmir, NW from Junkar [ca. 100 km NW from the Indian Kargil], 4400–4800m, 10.–15.VIII.2003, V. Gurko & Co. leg.
Fig. 2: Male genitalia of *Oroncus (Arctoroncus) ladakensis* (O. Bang-Haas, 1927), Indian Ladakh, Zanskar Range, Rangdum, 4000–5200, 21.–22.VII. 2003, leg. A. Helia, coll. V. Gurko.
Fig. 3: Aedeagus of *Oroncus (Arctoroncus) ladakensis* (O. Bang-Haas, 1927), Indian Ladakh, Zanskar Range, Rangdum, 4000–5200, 21.–22.VII. 2003, leg. A. Helia, coll. V. Gurko.

the Indian Kargil], 4400–4800 m, 10.–15.VIII.2003, V. Gurko & Co. leg. Preserved in the private collection of V. O. Gurko (Chernovtsy, Ukraine).
Paratypes: 43 ♂♂, 2 ♀♀, the same locality.

Description
Eyes located on distinct ocular sclerite which is densely covered with black scales. Palpi not small, porrect, as the whole head covered with dense small black scales and long sparse black hairs. Proboscis yellow, three times longer than the black hairs on head. Body in dense black scales, only fore legs with yellow hairs and scales on inner sides. Middle tibiae with one pair, hind tibia with two pairs of thick spurs. Abdomen in males black above, yellow beneath, on sides with yellow and black strips. In females the pattern of abdomen better expressed, yellow and black stripes well visible dorsally and laterally, but underside nearly pure yellow.
Forewings whitish with a pattern of dark brown bands and spots. Basal spots often reduced, sometimes better visible below the cell base, straight medial and V-shaped discal bands fused together on inner margin of the wing; there are four more spots: one on hind margin near hind angle, another at costa between discal vein and apex, and two more at outer margin, at apex

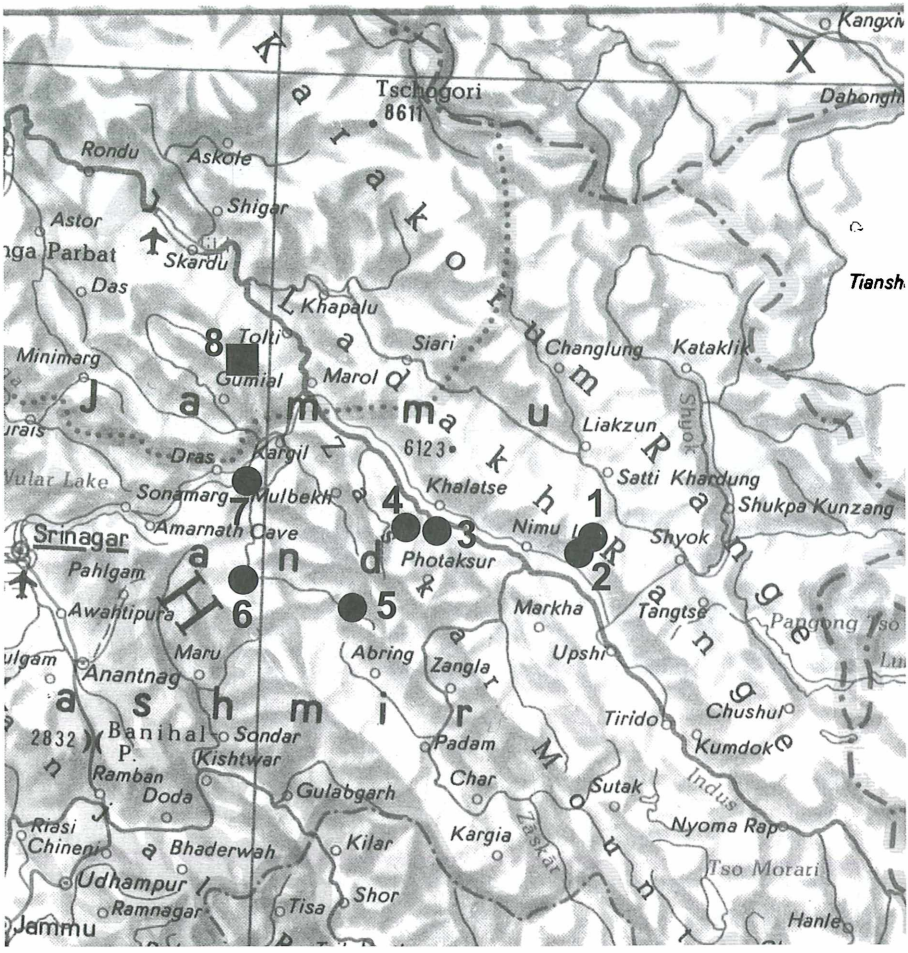


Fig. 4: Distribution of *Oroncus ladakensis* O. Bang-Haas, 1927 (●) and *O. gurkoi* spec. nov. (■). 1 – Khardung La, 2 – Leh (Thomas, 1993), 3 – Chalsi (O. Bang-Haas, 1927), 4 – Fatu La (Thomas, 1993), 5 – Rangdum (ex coll. V. Gurko), 6 – Tangol, 7 – Zogi La (Thomas, 1993), 8 – Junkar.

and near hind angle. Hindwing red turning yellowish at costa, wing base and anal margin. There are some brown spots on hindwings: narrow discal stripe, another narrow stripe between discal spot and wing base, two large spots near outer margin, sometimes there are very narrow dark stripes at outer margin.

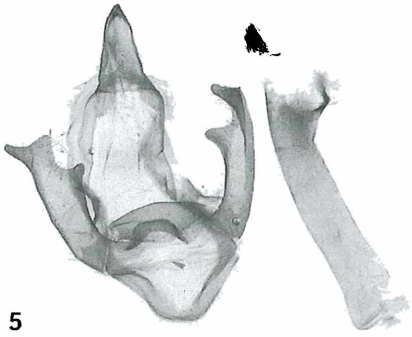
Male genitalia (fig. 1)
Uncus long and narrow. Valvi strongly convex-concave, at costal margin with rounded enlargement, ventral margin slightly broadening. Apical processes long and narrow, slightly broadening at middle part, strongly hook-like curved. Peniculi broad, long, rounded on apex, covered with small teeth. Juxta narrow, with convex fore margin. Saccus narrow, wide, not prominent. Aedeagus short, strongly curved, without teeth. Vesica bilobate, without cornuti.

The new species belongs to the curious group of *Oroncus* Seitz, 1910, with the wing pattern of an *Arctia*-type, but male genitalia of an *Oroncus*-type (subgenus *Arctoroncus* Gurko & Dubatolov subgen. nov.). This subgenus includes also *O. ladakensis* O. Bang-Haas, 1927 (colour plate IVb, fig. 3) from Ladakh and Zanskar (fig. 4) (Thomas, 1993), and *O. weigerti* (De Freina & Witt, 1985) from Karakorum (Gilgit: Naltar); the latter is known only by the single female. Among these species, the new one has the lightest forewings, with not so fused wing pattern. In *O. ladakensis* O. B.-H., the dark pattern occupies the most part of forewings, there are only two oblique narrow bands from the costa to inner margin, one light stripe at the costa between these bands and one more narrow subapical band. Hindwing pattern consists of only two dark submarginal spots. In the very dark *O. weigerti* (De Freina & Witt) there are only three narrow stripes on the forewings: the subapical, another one from the discal vein to the hind angle, and a third one across the middle part of the cell from the costa to the base of vein CuP. On the hindwings there are two large submarginal spots fused with the outer margin, a V-shaped discal band and a subbasal spot at the costa. According to the male genitalia structure, the new species differs from *O. ladakensis* O. B.-H. (figs. 2–3) by a strongly curved apical processes of valva, which is almost straight in *O. ladakensis* O. B.-H., by a rounded peniculus apex, which is tapering in *O. ladakensis* O. B.-H., and by the vesica structure: the new species has the distal lobe longer than the proximal one, while in *O. ladakensis* O. B.-H. the distal lobe is much shorter than the proximal one. There are three females of this group (colour plate IVb, fig. 4) in the collection of the Zoological Institute, St. Petersburg, their the wing pattern being transitional between *O. ladakensis* O. B.-H. and *O. gurkoi* spec. nov., but no such male is known, and the labels of these specimens look very doubtful, so the taxonomic status of them is not certain.

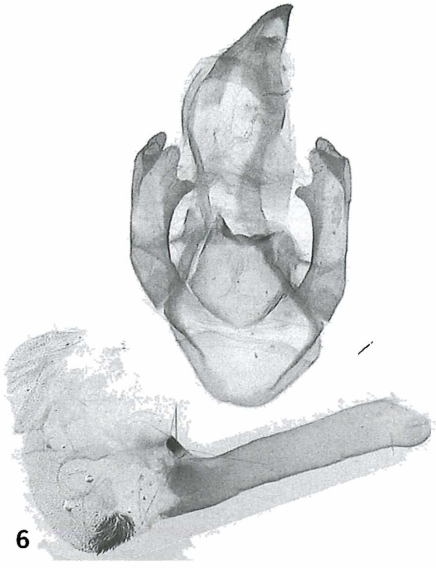
Spilarctia ***inayatullahi*** Dubatolov & Gurko **spec. nov.**
(colour plate IVb, fig. 5)

Material
Holotype ♂: Pakistan, prov. Azad Jammu & Kashmir, NW from Junkar [ca. 100 km NW from the Indian Kargil], 3000–3400 m, 1.–10.VIII.2003, V. Gurko & Co. leg. Preserved in Siberian Zoological Museum of the Institute on Animal Systematics and Ecology, SB RAS, Novosibirsk, Russia.

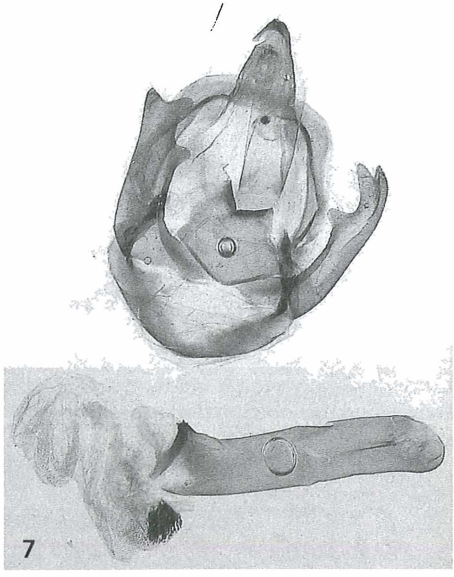
Description
Forewing length 19 mm (wing expanse 40 mm). Antennae bipectinate with branches 3–4 times longer that antennal segment diameter. Eyes oval, convex, naked. Frons covered with dense whitish hairs, lateral sides of frons with contrast black ones. Palpi not long, porrect, black in distal part and yellowish at base. Femora covered with long yellowish hairs, and black scales



5



6



7

Fig. 5: Male genitalia of *Spilarctia inayatullahi* spec. nov., holotype.
Fig. 6: Male genitalia of *Spilarctia melanostigma* (ERSCHOFF, 1872), Pakistan, Gilgit, Naltar, 3000-3200 m, 19.-23.VII.1982, ECKWEILER leg.
Fig. 7: Male genitalia of *Spilarctia melanostigma* (ERSCHOFF, 1872), Tadzhikistan, Hissar Mountains, Kondara Gorge, 5.V.1980, FORTUSHENKO leg.

on apex; tibiae and tarsi black, only fore tarsi whitish on inner surface. Notum covered with whitish hairs, with black longitudinal stripe in central part. Tegulae also with black stripes in central parts. Lateral part of thorax covered with yellowish hairs, ventral part with whitish ones. Abdomen dorsally and laterally dark yellow, with three rows of black spots; whitish ventrally.

Forewings whitish with pattern of black spots like in dark coloured specimens of *S. melanostigma* (ERSCH.) (col. pl. IVb, fig. 6): with wide oblique rows of fused black spots going from apex to inner margin, this row is fused with dark stripe along hind vein of the cell. There are two more rows of spots along outer margin and anal vein; some additional spots are located between discal vein and apex, and in cell. Veins whitish, crossing dark pattern. Hindwings

yellowish, with a row of dark spots (not so contrasting as in forewings) along outer margin and fused dark coloration in cell and around it; this dark coloration is crossed by yellowish veins.

Male genitalia (fig. 5) of the new species is also very similar to *S. melanostigma* (ERSCH.) (figs. 6, 7), but differs by a longer apical process of the valva.

The new species is very similar to *S. melanostigma* (ERSCH.) (col. pl. IVb, fig. 6), also occurring in North Pakistan. From Karakorum Mountains *Spilarctia karakorumica* DANIEL, 1961 was described, which is a synonym of *S. melanostigma* (ERSCH.).The new species differs by a strong yellowish coloration of the hindwings and lateral parts of the thorax, a strong dark pattern of the fore- and hindwings, much longer branches of the male antennae, and also by a longer apical branch of the valva.

The species in named in the honour to Prof. MIAN INAYATULLAH from NWFP Agricultural University, Peshawar, Pakistan.

Acknowledgements
Authors are grateful to Prof. M. INAYATULLAH (Peshawar, Pakistan), a good man, who honourably rendered inestimable help in field scientific studies in 2003, to Drs. P. IVINSKIS and A. SALDAITIS for figures of *Oroncus (Arctoroncus) ladakensis* O. B.-H. moth and its genitalia, to Dr. D. LOGUNOV (Manchester, London) for obtaining important literature, Dr. O. KOSTERIN for language correction.

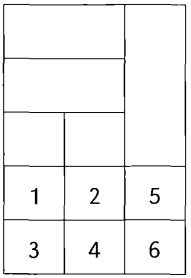
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Explanation of colour plate IVb (p. 159):

Fig. 1: *Oroncus (Arctoroncus) gurkoi* spec. nov., holotype ♂, Pakistan, prov. Azad Jammu & Kashmir, NW from Junkar [ca. 100 km NW from the Indian Kargil], 4400–4800 m, 10.–15.VIII. 2003, V. GURKO & Co. leg.

Fig. 2: *Oroncus (Arctoroncus) gurkoi* spec. nov., paratype ♀, Pakistan, prov. Azad Jammu & Kashmir, NW from Junkar [ca. 100 km NW from the Indian Kargil], 4400–4800 m, 10.–15.VIII. 2003, V. Gurko & Co. leg.
Fig. 3: *Oroncus (Arctoroncus) ladakensis* (O. Bang-Haas, 1927), Indian Ladakh, Zanskar Range, Rangdum, 4000–5200, 21.–22.VII.2003, ♂ (leg. A. Helia, coll. V. Gurko).
Fig. 4: *Oroncus (Arctoroncus)* spec. China, Tien Shan, river Aksu, VI.1912, Rückbeil leg.
Fig. 5: *Spilarctia inayatullahi* spec. nov., holotype ♂, Pakistan, prov. Azad Jammu & Kashmir, NW from Junkar [ca. 100 km NW from the Indian Kargil], 3000–3400 m, 1.–10.VIII.2003, V. Gurko & Co. leg.
Fig. 6: *Spilarctia melanostigma* (Erschoff, 1872). ♂, Kyrghyzstan, Alai Mountains, Dugoba near Jordan, 25.VI.1984, Nekrasov leg.



addresses of the authors

V. V. Dubatolov
Siberian Zoological Museum
Institute of Animal Systematics and Ecology
Siberian Branch of Russian Academy of Sciences
Frunze street ,11
630091, Novosibirsk, 91, Russia

V. O. Gurko
Chapaev street, 43a/40
58022 Chernovtsy, Ukraine

Colour plate IVa

DUBATOLOV, V. V. Some generic changes in Arctiinae from South Eurasia with the description of three new genera (Lepidoptera, Arctiidae). - Atalanta **35** (1/2): 73-83.

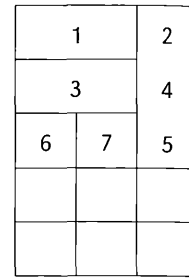


Fig. 1: *Kishidaria khasiana* (MOORE, 1878), North Vietnam, Lao Cai, Sa Pa, VI.2000, native collector leg.
Fig. 2: *Kishidaria zerenaria* (OBERTHÜR, 1886), from: FANG (1985).
Fig. 3: *Calpenia saundersi* MOORE, 1872, North Laos, Xamneua, 24.IV. 2000, native collector leg.
Fig. 4: *Calpenia (Sebastia) argus* (WALKER, 1862), from: FANG (1985).
Fig. 5: *Calpenia takamukui* MATSUMURA, 1930, from: FANG (1985).
Fig. 6: *Ebertarctia nordstroemi* (BRANDT, 1947), Iran, Khorassan, Kouh i Binaloud (Meched), 3300 m, 20.VII.1938, BRANDT leg.
Fig. 7: *Creataloum arabicum* (HAMPSON, 1896), Iran, Beloutchistan, Bender Tchehbahar, 22.XII.1937, BRANDT leg.

Colour plate IVb

DUBATOLOV, V. V. & V. O. GURKO: New Arctiinae species from Azad Kashmir, Pakistan (Lepidoptera, Arctiidae). - Atalanta **35** (1/2): 84-90.

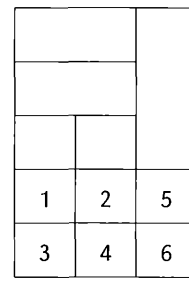


Fig. 1: *Oroncus (Arctoroncus) gurkoi* spec. nov., holotype ♂, Pakistan, prov. Azad Jammu & Kashmir, NW from Junkar [ca. 100 km NW from the Indian Kargil], 4400-4800 m, 10.-15.VIII. 2003, V. GURKO & Co. leg.
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Fig. 6: *Spilarctia melanostigma* (ERSCHOFF, 1872). ♂, Kyrghyzstan, Alai Mountains, Dugoba near Jordan, 25.VI.1984, NEKRASOV leg.

Colour plate IVa/b

